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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,554	06/16/2001	Ahmad Chini	3927P017	1084

8791 7590 02/10/2005

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EXAMINER

DUONG, DUC T

ART UNIT PAPER NUMBER

2663

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,554

Applicant(s)

CHINI ET AL.

Examiner

Duc T. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-18 is/are allowed.
- 6) ☒ Claim(s) 8,9,19-22,24 and 25 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 11 . 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 8, 9, and 19-25 are withdrawn based on the rejections of newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 recites the limitation "the network transceiver" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8, 9, 19, 22, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frodigh et al (U.S. Patent 5,726,978) in view of Spruyt et al (U.S. Patent 6,370,156 B2).

Regarding to claim 8, Frodigh discloses a method of identifying at least one carrier of a plurality of carriers in a non-data bearing state (Fig. 5), comprises receiving

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a carrier map 324 (Fig. 3B and 5 col. 11 lines 56-57) from a remotely located system 360 (Fig. 3A-B col. 9 lines 32-37), the carrier map is produced at the system in response to conducting channel estimation analysis (signal quality C/I and interference I measurements) on the plurality of carriers to indicate which carriers are unreliable 514-518 (Fig. 5 col. 11 lines 62-67 and col. 12 lines 1-17; carriers are deemed to be unreliable if the signal quality C/I and interference I measurements falls below certain threshold).

Frodish fails to teach modulating the at least one non-data bearing carrier with random data.

However, Spuyt discloses a system for transmission (Fig. 1), wherein a pilot carrier (non-data bearer carrier) is modulated with a random signal (col. 4 lines 40-47).

Thus, it would have been obvious to a person of ordinary skill in the art to employ a modulation of a non-data bearing carrier with a random data as taught by Spruyt in Frodigh's system to increase interference immunity.

Regarding to claim 9, Frodigh discloses the carrier map indicates which of the plurality of carriers is deemed to be in an unreliable state 514-518 (Fig. 5 col. 62-67 and col. 12 lines 1-17; carriers are deemed to be unreliable if the signal quality C/I and interference I measurements falls below certain threshold).

Regarding to claim 19, Frodish discloses a network comprising a system 360 coupled to a first link 366 (Fig. 3A col. 7 lines 65-67); and a first multi-carrier modulation MCM system 300 in communication with the network transceiver 330 over a second link 380 (Fig. 3A col.8 lines 1-9), the first MCM system to identify at least one carrier of a

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plurality of carriers is in a non-data bearing state (Fig. 5 col. 11 lines 62-67; signal quality C/I and interference I falls below certain threshold is interpret as in non-data bearing state) based on feedback information 324 provided by the system (Fig. 5 col. 9 lines 32-37).

Frodish fails to teach modulating the at least one non-data bearing carrier with random data.

However, Spruyt discloses a modulation system, wherein a pilot carrier (non-data bearer carrier) is modulated with a random signal (col. 4 lines 40-47).

Thus, it would have been obvious to a person of ordinary skill in the art to employ a modulation of a non-data bearing carrier with a random data as taught by Spruyt in Frodigh's system to increase interference immunity.

Regarding to claim 22, Frodigh discloses the system 360 is a second multi-carrier modulation system (Fig. 3A col. 9 lines 9-10; the system 360 could be located in the base station 330, which is a MCM system).

Regarding to claims 24 and 25, Frodigh discloses the link transmitter 300 (Fig. 3A col. 7 lines 65-67; the link transmitter read on both a modem and computer).

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frodigh and Spruyt in view of Yonge, III et al (U.S. Patent 6,442,129).

Regarding to claims 20 and 21, Frodigh and Spruyt and disclose all the limitations with respect to claim 19, except the first link is an alternating current (AC) power line (claim 20) and the system is a network transceiver for routing data over the AC power line (claim 21). However, Yonge discloses an OFDM system for identifying

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usable carriers comprising a network transceiver 26 for routing data over a power line 14 (Fig. 1 col. 3 lines 62-65). Thus, it would have been obvious to a person of ordinary skill in the art to employ a transceiver for routing data over a power line as taught by Yonge in Frodigh and Spruyt's system since such transceiver and power line are well known implementation for data transmission over a wire medium.

Allowable Subject Matter

7. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 10-18 are allowed.

Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Duong whose telephone number is 571-272-3122. The examiner can normally be reached on M-F (9:00 AM-5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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RICKY NGO
PRIMARY EXAMINER